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Application No.: 10/091080

Case No.: 57080US002

AMENDMENT TO THE CLAIMS:

The following list of claims will replace all prior versions of claims in the application:

1. (currently amended) An abrasive article comprising
a backing having a major surface; and
an abrasive coating on the major surface of the backing comprising at least 20% by weight of a superabrasive particle, wherein the abrasive coating is derived from an abrasive slurry comprising
superabrasive particles;
a continuous phase comprising a reactive curing binder precursor; and
a dispersant comprising a polymer having a molecular weight (Mw) of greater than 500, an Amine Value, and an AV of greater than 4.5, wherein $AV = 1000 * [(Amine\ Value) / (Mw)]$, wherein a majority of the superabrasive particles are dispersed as individual particles.
2. (original) The abrasive article of claim 1 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having a molecular weight (Mw) of greater than 1000.
3. (original) The abrasive article of claim 1 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having a molecular weight (Mw) of between about 3000 and about 4000.
4. (original) The abrasive article of claim 3 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having an AV of between about 5 and about 7.5.
5. (original) The abrasive article of claim 1 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having a molecular weight (Mw) of between about 8000 and about 9000.

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6. (original) The abrasive article of claim 5 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having an AV of between about 12 and about 13.
7. (original) The abrasive article of claim 1 wherein the abrasive coating comprises at least about 30% by weight of a superabrasive particle.
8. (original) The abrasive article of claim 7 wherein the abrasive coating comprises between about 30% by weight and about 80% by weight of a superabrasive particle.
9. (canceled)
10. (previously presented) The abrasive article of claim 1 wherein the abrasive coating comprises a binder.
11. (original) The abrasive article of claim 1 wherein the superabrasive particle is diamond.
12. (original) The abrasive article of claim 11 wherein the diamond has a particle size less than 2 micrometers.
13. (currently amended) An abrasive article comprising
a backing having a major surface; and
an abrasive coating on the major surface of the backing comprising at least 20% by weight of a superabrasive particle, wherein the abrasive coating is derived from an abrasive slurry comprising
superabrasive particles;
a continuous phase comprising a reactive curing binder precursor ; and
a dispersant comprising a polymer having a molecular weight (Mw) of greater than 10,000, an Amine Value, and an AV of greater than 1.0, wherein $AV = 1000 * [(Amine$

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Value)/(Mw)], wherein a majority of the superabrasive particles are dispersed as individual particles.

14. (currently amended) An abrasive article comprising
a backing having a major surface; and
an abrasive coating on the major surface of the backing comprising at least 20% by weight of a superabrasive particle, wherein the abrasive coating is derived from an abrasive slurry comprising
superabrasive particles;
a continuous phase comprising a reactive curing binder precursor; and
a dispersant comprising a polymer having a molecular weight (Mw) of greater than 100,000, an Amine Value, and an AV of greater than 0, wherein $AV = 1000 * [(Amine\ Value) / (Mw)]$, wherein a majority of the superabrasive particles are dispersed as individual particles.
15. (original) The abrasive article of claim 14 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having a molecular weight (Mw) of greater than 150,000.
16. (currently amended) An abrasive article comprising
a backing having a major surface; and
an abrasive coating on the major surface of the backing comprising at least 20% by weight of a superabrasive particle, wherein the abrasive coating is derived from an abrasive slurry comprising
superabrasive particles;
a continuous phase comprising a reactive curing binder precursor; and
a dispersant comprising a polymer having a molecular weight (Mw) of greater than 500 and a measurable total Amine Value, wherein a majority of the superabrasive particles are dispersed as individual particles.

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17. (currently amended) A method of manufacturing an abrasive article comprising coating an abrasive slurry comprising superabrasive particles, a continuous phase comprising a reactive curing binder precursor, and a dispersant comprising a polymer having an average molecular weight (Mw) of greater than 500, an Amine Value, and an AV of greater than 4.5 onto a backing, wherein $AV=1000*[(\text{Amine Value})/(\text{Mw})]$, wherein the superabrasive particles comprise at least 20% dry weight of all solids in the slurry, and wherein a majority of the superabrasive particles are dispersed as individual particles; and solidifying the abrasive slurry.
18. (original) The method of claim 17 wherein the abrasive slurry is cured.
19. (currently amended) An abrasive article comprising a backing having a major surface; and an abrasive coating on the major surface of the backing comprising at least 20% by weight of a superabrasive particle, wherein the abrasive coating is derived from an abrasive slurry comprising
superabrasive particles;
a continuous phase comprising a reactive curing binder precursor; and
a dispersant comprising a polymer having a molecular weight (Mw) of greater than 500, an Amine Value, and an AV of greater than 4.5, wherein $AV=1000*[(\text{Amine Value})/(\text{Mw})]$, wherein a majority of the superabrasive particles are dispersed as individual particles.
20. (new) The abrasive article of claim 1 wherein the abrasive slurry remains opaque for at least five minutes if sonicated for at least 25 seconds.
21. (new) The abrasive article of claim 1 wherein the abrasive slurry does not settle to form a cake in less than 30 minutes if sonicated for at least 20 seconds.

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22. (new) The abrasive article of claim 1 wherein the superabrasive particles have a nominal size, the abrasive slurry has a particle size distribution, and at least 78.4 percent of the particles in the particle size distribution are less than 1.5 times the nominal size of the superabrasive particles.

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